Docket No.: 50103-352 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of	:	Customer Number: 20277
Turguy GOKER, et al.	:	Confirmation Number: 5600
Serial No.: 09/911,740	:	Group Art Unit: 3654
Filed: July 25, 2001	:	Examiner: Minh Chau Pham

For: METHOD AND APPARATUS OF MAINTAINING TENSION IN A TAPE

TRANSMITTAL OF APPEAL BRIEF

Mail Stop Notice of Appeal
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith in triplicate is Appellant(s) Appeal Brief in support of the Notice of Appeal filed. Please charge the Appeal Brief fee of $330.00 to Deposit Account No. 500417.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT, WILL & EMERY

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APPEAL BRIEF

Mail Stop Notice of Appeal
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed August 21, 2003.

I. REAL PARTY IN INTEREST

The Real Party in Interest is SEAGATE REMOVABLE STORAGE SOLUTIONS, LLC, assignee of the Application. This entity has since become Certance, LLC.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-9 and 11-20 are pending in this Application, all standing under final rejection. Claim 10 has been cancelled.

IV. STATUS OF AMENDMENTS

No Amendment has been submitted subsequent to the issuance of the most recent Office Action dated May 27, 2003.

V. SUMMARY OF THE INVENTION

The present invention addresses and solves problems associated with the unloading of tape from a take-up reel to a single reel tape cartridge in a tape drive mechanism, and more particularly to preventing the detachment of the end of the tape from a hub filler during the unloading operation. (page 5 of the written description of the Specification, last partial paragraph and first paragraph of page 6). A particular problem addressed includes maintaining of tension in the tape to prevent the detachment of the end of the tape. The unloading operation involves unloading of tape from the take-up reel in the tape drive to the single reel tape cartridge, which can then be removed. In conventional tape drives, during the unloading operation, the motor coupled to the single reel of the tape cartridge and the guide arm motor must act cooperatively in order to maintain adequate tension in the tape that is attached to the hub filler. If the tape is not under adequate tension, there is a risk that the end of the tape will detach from the hub filler prior to the end of the tape being retracted into the cartridge. The motor coupled to the tape cartridge and the guide arm motor are separately calibrated. Over time, there is a possibility that one of the motors will run faster or slower than intended or originally calibrated. When

this occurs, the tension in the tape may be decreased and result in the detachment of the end of the tape from the hub filler. If the end of the tape is inadvertently detached in this manner, the tape will become loose and unguided in the tape drive mechanism. One problem with such a detachment is that the tape drive mechanism may be "jammed" by the loose unguided tape. For instance, the loose tape may be caught between the hub filler and the guide rail. This may prevent movement of the hub filler, while torque is being applied to the hub filler by the guide arm. Consequently, an undue amount of pressure may be applied to the parts of the tape drive mechanism, permanently damaging the device. (See first full paragraph on page 3, continuing to page 4 of the written description.)

The Appellants address and solve such problems use the cartridge reel motor 412 coupled to a tape cartridge 400 to retract tape 406 that is attached to a hub filler 402. The retracting tape 406 drags the hub filler 402 and guide arm 416 towards the cartridge 400. The frictional resistance of the hub filler (page 8, last full paragraph), the frictional resistance of the guide arm (page 9, first full paragraph), the frictional resistance of the guide arm motor (page 9, third full paragraph), and magnetic resistance of the guide arm motor (page 9, second full paragraph) maintain adequate tension in the tape. Additional tension may be provided by stimulated electrical induction within the guide arm motor (page 9, last full paragraph). By maintaining the tension, it is ensured that the leader pin will not be inadvertently detached from the hub filler during transport along the guide rail (see page 8, second full paragraph of the written specification). This tension is maintained by the drag force the hub filler exerts on the tape as the tape retracts into the cartridge. As described at page 10 of the written specification, with the present invention, the tape 406 is not transported back to the single reel 417 by the hub filler 402, with the cartridge reel motor 412 operating only to take up slack, as in the prior art. Rather, it is the cartridge reel motor 412 that provides the torque to pull the tape 406 into the single reel

417. Tension in the tape 406 is controlled through the guide arm motor, guide arm and hub filler combination.

VI. ISSUES

A. The Rejections:

1. Claims 1-4, 9 and 11 were rejected under 35 U.S.C. §102(b) for lack of novelty predicated upon Ohshita (EP 0467143).

2. Claims 1-4, 9, 11 and 16-17 were rejected under 35 U.S.C. §102(e) for lack of novelty predicated upon Theobald (US Patent 6,082,652).

3. Claims 5-8, 12-15 and 18-20 were rejected under 35 U.S.C. §103(a) for obviousness predicated upon Theobald (US Patent 6,082,652).

B. The Issues which arise in this Appeal and require resolution by the Honorable Board of Patent Appeals and Interferences (the Board) are:

1. Whether claims 1-4, 9 and 11 are unpatentable under 35 U.S.C. §102(b) for lack of novelty predicated upon Ohshita.

2. Whether claims 1-4, 9, 11 and 16-17 are unpatentable under 35 U.S.C. §102(e) for lack of novelty predicated upon Theobald.

3. Whether claims 5-8, 12-15 and 18-20 are unpatentable under 35 U.S.C. §103(a) for obviousness predicated upon Theobald.

VII. GROUPING OF CLAIMS

The appealed claims do not stand or fall together as a group. The patentability of each of the claims are separately advocated.

VIII. THE ARGUMENT

The rejection of claims 1-4, 9 and 11 under 35 U.S.C. §102(b) for lack of novelty predicated upon Ohshita.

The Examiner's Burden

The Examiner is charged with the initial burden of establishing a prima facie basis to deny patentability to a claimed invention under any statutory provision. In re Main, 104 F.3d. 1339, 41 USPQ 2d 1451 (Fed. Cir. 1997). Lack of novelty under 35 U.S.C. §102 requires the identical disclosure in a single reference of each element of a claimed invention such as to establish that the identically claimed invention is in the public domain and that such existence would have been recognized by one having ordinary skill in the art. Crown Operations Ltd. v. Solutia, Inc., 62 USPQ 2d 1917; In re Spada, 911F.2d., 705, 708, 15 USPQ 2d 1655, 1657 (Fed. Cir. 1990); Diversitech Corp. v. Century Steps, Inc., 850F.2d 675, 678, 7 USPQ 2d 1315, 1317 (Fed. Cir. 1988).

The Claimed Invention

The invention defined in independent claim 1 is directed to a tape drive mechanism comprising a hub filler coupled to a guide rail and means for preventing detachment of an end of tape from the hub filler during a tape unloading operation. The specification describes structure that provides means for preventing detachment, including a guide arm and a guide arm motor, which are arranged to provide drag on a tape being unloaded from the tape drive mechanism. The Examiner is unable to identify wherein Ohshita discloses a means for preventing detachment identically corresponding to that claimed, thereby placing the claimed invention into knowing possession of the public.

The Examiner's Position

The language of claim 1 is cast in means-plus-function format and must therefore be interpreted within the guidelines of 35 U.S.C. §112, 6th paragraph, as required by that statute and interpreted by the Court of Appeals for the Federal Circuit. The Examiner, however, has a unique view, one unsupported by current case law, as to how such a claim is to be interpreted. Particularly, the Examiner states that the Examiner is required to compare the structures of the allegedly anticipating reference with the structure disclosed in the specification to consider whether there is a specified functional equivalent, but not "a structural equivalent" as Applicants may wish to believe. The Examiner believed that Applicants were misinterpreting the 35 U.S.C. §112, 6th paragraph. From this, the Examiner stated that Applicants' arguments are not commensurate with the scope of the claim. This statement by the Examiner in the Final Office Action clearly shows that the Examiner has ignored: 1) the clear statutory language of 35 U.S.C. §112, 6th paragraph; 2) the requirements set forth by the Federal Circuit in In re Donaldson; and 3) the Manual of Patent Examining Procedure (MPEP). The Examiner has instead provided a new standard for interpreting means-plus-function claims, in direct contravention to the standard required by the authorities above.

Examination of claims under 35 U.S.C. §112, paragraph 6

The sixth paragraph of 35 U.S.C. §112 states that an element in a claim for a combination may be expressed as a means or a step for performing a specified function without the recital of structure, material, or acts in support thereof. Such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. The Federal Circuit has held that the Patent Office is not exempt from the rigors of paragraph 6 of §112, stating that "paragraph six applies regardless of the context in which the interpretation of means-plus-function arises." In re Donaldson, 16 F.3d 1189, 1195, 29 USPQ 2d 1845, 1849 (Fed. Cir. 1994) see also, In re Morris, 44

USPQ 2d 1023 (Fed. Cir. 1998) (following Donaldson). The Patent Office, recognizing this directive from the Federal Circuit, directed its Examiners to follow Donaldson. As stated in MPEP 2182, the application of a prior art reference to a means plus function limitation requires that the prior art element perform the identical function specified in the claim. If a prior art reference teaches identity of function to that specified in the claim, then under Donaldson an Examiner carries the initial burden of proof to show that the prior art structure is the same as or equivalent to the structure, material or acts described in the specification that should have been identified as corresponding to the claimed means function. The broadest reasonable interpretation that an Examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a patentability determination. Donaldson, 16 F.3d at 1194-95, 29 USPQ 2d at 1850.

In this case, however, the Examiner has totally and explicitly disregarded the structure disclosed in Appellant's specifications, stating that the test is whether there is a specified functional equivalent when interpreting claims under 35 U.S.C. §112, 6th paragraph. This is in direct contrast to the statute, as interpreted by the Federal Circuit, Donaldson and in contradistinction to the examination guidelines set forth by the Patent and Trademark Office in the MPEP. Each of those authority states that the prior art structure must be the same as or equivalent to the structure described in the specification which has been identified as corresponding to the claimed means plus function. Hence, it is the structure that must be equivalent, and not the function that must be equivalent. In fact, there must be identity of function.

Hence, the Examiner's basis for rejecting claim 1, and those claims dependent therefrom, is legally flawed ab initio.

The Ohshita reference

In making the rejection, the Examiner referred to column 4, lines 32-40 of Ohshita, reproduced below:

> When unthreading the magnetic tape 2, the threading motor 21 rotates clockwise. Then the pin 8 travels back along the guide groove 5b while pulling the leader block 3 to insert the leader block 3 into the cartridge 1. During insertion, the leader block 3 has to be pushed against the opposing force of the tone provided in the cartridge 1, causing a shock to both cartridge 1 and the threading arm.

In this description, the Examiner asserted that the guide arm and the guide arm motor are arranged to provide drag on the taping unloaded from the tape drive mechanism. However, it is quite clear from the description that, in fact, the exact opposite happens. The motor 21, seen in Figure 3, rotates clockwise. This has the action of pulling the leader block 3, to thereby insert the leader block 3 into the cartridge. The guide arm motor is therefore applying force in the same direction as the travel direction of the tape. This is directly in contrast to the present invention, in which, as seen in Figure 4, the force of the motor in the present invention is in the direction opposite to that of the travel direction of the tape, as indicated by the force on the tape. The guide arm and the guide arm motor are not dragged in Ohshita, but rather are configured to provide the motive force for movement of the leader block. Thus, the structure of Ohshita is not equivalent to that of the present invention so that claim 1 cannot be considered anticipated under 35 U.S.C. §102 when properly interpreted under the strictures of 35 U.S.C. §112, second paragraph.

Claims 2-4 provide more details regarding the guide arm and the guide arm motor and being dragged by the tape, as follows providing a drag on the tape being unloaded from the tape drive mechanism. Thus, Ohshita totally fails to teach the guide arm and the guide arm motor as providing a drag, or a controllable drag, on a tape being unloaded from the tape drive mechanism. In fact, the Examiner unwittingly admits that the dragging of Ohshita is not accomplished by the guide arm and the

guide arm motor. The Examiner asserts that the controllable drag is met by Ohshita by simply activating and non-activating the tape drive mechanism which the cartridge 1 in the machine reel 4 reels the tape 2, creating a tension and a drag in a controlled manner by activating and non-activating. This is not the guide arm or the guide arm motor providing a drag, as required by claims 2-4.

Claim 9 is another independent claim reciting a tape drive mechanism with a hub filler coupled to a guide rail, a guide arm coupled to the hub filler, and a guide arm motor coupled to the guide arm. The guide arm and the guide arm motor are arranged to controllably drag on a tape and thereby prevent detachment of an end of the tape from the hub filler during movement of the hub filler along the guide rail during unloading operation. Ohshita fails to disclose these features, as discussed above. Although not cast in means plus-function format, claim 9 specifies that the guide arm and the guide arm motor are arranged to controllably drag on a tape. Ohshita fails to disclose such an arrangement of a guide arm and guide arm motor to controllably drag on a tape to prevent detachment of an end of the tape from the hub filler during an unloading operation. Instead, the guide arm and the guide arm motor provide the motive force on the tape, and do not provide the drag on the tape. The Examiner has not satisfactorily explained how Ohshita's pulling of the leader block 3 during unthreading, performed by the arms 17, 18 and the threading motor 21, identically discloses an arrangement of a guide arm and a guide arm motor that controllably drag on a tape. How is pulling a tape with an arm linkage and motor the same as providing controllable drag on a tape? One of ordinary skill in the art would certainly not understand pulling on a tape to be the same as providing a controlled drag on a tape. Even a child understands that pulling a wagon is not the same thing as providing drag on that wagon. Simply put, these forces are applied in opposite directions. Hence, the Examiner has failed to establish an identical disclosure in Ohshita of the invention recited in claim 9.

Claim 11 recites that the guide arm and the guide arm motor are arranged to be dragged by the tape being unloaded from the tape drive mechanism. In no way is the guide arm and the guide arm motor arranged to be dragged by the tape being unloaded from the tape drive mechanism in Ohshita. Rather, the threading motor 21 of Ohshita rotates clockwise and the pin 8 (provided at the end of arm 18) pulls the leader block 3 to insert the leader block 3 into the cartridge 1. Hence, Ohshita cannot possibly be said to identically disclose a guide arm and a guide arm motor that are dragged by the tape when it is being unloaded from the tape drive mechanism. To assert otherwise blatantly ignores the clear teachings of Ohshita.

For all of the above reasons, the rejection of claims 1-4, 9 and 11 under 35 U.S.C. §102(b) as being anticipated by Ohshita has not been established by the Examiner.

The Theobald Reference

Claims 1-4, 9, 11 and 16-17 were rejected under 35 U.S.C. §102(e) as being anticipated by Theobald. Theobald was considered by the Examiner to disclose the claimed invention, and specifically teaching a tape drive mechanism and a method of preventing detachment of an end of a tape from the hub filler during an unloading operation. The Examiner identified the means for preventing detachment 116, 122 comprising a guide arm 122 and a guide arm motor, wherein the guide arm and the guide arm motor are arranged to provide or controllably drag/tension on a tape and to be dragged/tensioned by the tape being unloaded from the tape drive mechanism.

The Examiner has failed to discharge his initial burden regarding the establishment of a case of anticipation.

The Examiner has not discharged the initial burden of demonstrating that Theobald identically discloses each and every element of the claimed invention.

For the same reasons provided above with respect to claims 1-4, the Examiner has failed to properly consider the limitations of these claims under the strictures of 35 U.S.C. §112, 6th paragraph. In other words, the Examiner has failed to consider whether Theobald has both identity of function and a structural equivalent to the claimed means as disclosed in the specification.

It is respectfully pointed out that the Examiner has provided no factual basis that the guide arm and the guide arm motor of Theobald are arranged to provide drag/tension on a tape and to be dragged/tensioned by the tape being unloaded from the tape drive mechanism. The Examiner has merely shown that the load motor and the link 122 that is pivoted by the load motor move the take-up link between the connect and disconnect positions. There is no factual evidence provided by the Examiner that the link 122 actually provides drag/tension on the tape. It is fundamentally unfair to the Appellants to assert that Theobald identically discloses each and every element of the claimed invention when such features are not clearly shown. The supposition that the tape drive mechanism provides a drag/tension in a particular claimed manner, without factual support, is just that—a supposition. It is not the necessary factual evidence required to deny Appellants of their right to an issued patent.

Hence, the Examiner has failed to establish, for example with respect to claim 2, that the means for preventing detachment comprises a guide arm coupled to the hub filler and a guide arm motor coupled to the guide arm. With respect to claim 3, the Examiner has failed to establish that the guide arm and the guide arm motor are arranged to provide drag on a tape being unloaded from the tape drive mechanism. The Examiner has not shown that the motor in Theobald provides drag on a tape. The Examiner has not established that the guide arm motor provides any drag whatsoever, or whether it is freely spinning during an unloading operation, or whether it is driven as described in the background of the present application. Theobald is silent upon the action of the motor during the unloading operation,

and therefore cannot provide the identical disclosure required of a reference to anticipate the claims of an invention under 35 U.S.C. §102.

Claim 4 of the present application further limits previous claims 1-3 by requiring the guide arm and the guide arm motor being arranged to be dragged by the tape being unloaded from the tape drive mechanism. Again, Theobald provides no disclosure of a guide arm motor that is dragged by a tape when it is being unloaded. The operation of the motor of the take-up reel is not described in Theobald with respect to the unloading operation. No conclusion can be drawn that the guide arm motor is arranged to be dragged by the tape being unloaded in Theobald. Thus, it is impossible to state that Theobald identically discloses each and every element of claim 4.

Claim 9 of the present application describes a tape drive mechanism in which the guide arm and the guide arm motor are arranged to controllably drag on a tape and thereby prevent detachment of an end of the tape from the hub filler during movement of the hub filler along the guide rail during an unloading operation. In the Final Office Action, the Examiner stated his disagreement with the Applicant's statement that there was no factual evidence provided by the Examiner that the link 122 actually provides drag/tension on the tape. The Examiner, stated that as the take-up reel 112 is rotated, it pulls the hub filler 106, 114 which is connected to the link 122. When the tape is pulled which is connected to the link 122, it creates not only a tension but also a drag. This statement reveals the incorrect understanding of Theobald that the Examiner is operating under. As the take-up reel 112 is rotated to pull the hub filler 106, 114, the tape is wound onto the hub 112. This is the loading operation, not the unloading operation. Therefore, the Examiner's position and argument have no relevance with respect to claim 9, which describes the controlling of drag on a tape and preventing the detachment of an end of a tape during the unloading operation. Hence, claim 9 has not been shown to be identically disclosed by Theobald. Similarly, the Examiner has not established that the guide arm

and the guide arm motor in claim 11 are arranged to be dragged by the tape being unloaded from a tape drive mechanism in Theobald. In particular, the guide arm motor is not described in the Theobald reference with respect to the unloading operation. The Examiner cannot form any valid conclusion as to whether the guide arm motor is being dragged by the tape during the unloading operation, based upon the disclosure of Theobald. The Examiner's rejection must be based on facts, and not mere supposition.

Claim 16 is an independent claim reciting a method of preventing detachment of an end of tape from a hub filler during movement of the hub filler along a guide rail during an unloading operation. The method comprises the steps of driving an end of tape with a tape cartridge motor in a direction away from a take-up reel, and controllably applying tension to the end of the tape in a direction toward the take-up reel. The Examiner has not established that Theobald identically discloses the step of controllably applying tension to the end of the tape in a direction toward the take-up reel. Again, the Examiner has provided no factual evidence that Theobald discloses the controllable application of tension to the end of a tape in a direction toward the take-up reel during an unloading operation. Referring again to column 5, lines 9-12, the unloading process is described in Theobald as supply reel 104 being driven to reel the magnetic tape back into the cartridge 102. The intercoupled links 106, 114 are drawn out of the recess 120 and moved back along the guide tracks 118. The Examiner has not established that Theobald discloses any control of the application of tension in a direction toward the take-up reel, and its passage regarding the unloading operation and Theobald does not reveal any such disclosure. Accordingly, the Examiner has failed to discharge the initial burden of providing a prima facie case of anticipation under 35 U.S.C. §102(e) of claim 16 predicated upon Theobald.

Claims 17 of the invention, also rejected under 35 U.S.C. §102(e), further recites the step of applying tension comprising the further steps of providing tension through a guide arm coupled to the

hub filler, and providing tension through a guide arm motor coupled to the guide arm. Again, the Examiner has failed to establish that the motor corresponding to a guide arm motor in Theobald provides tension. Nor has the Examiner established that the guide arm coupled to the hub filler provides tension. Therefore, the Examiner has not discharged the initial burden of providing a prima facie case of anticipation of claim 17 based upon Theobald.

The Examiner has failed to establish a case of obviousness under 35 U.S.C. §103(a) based upon Theobald.

Claims 5-8, 12-15 and 18-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Theobald.

Claim 5 of the invention recites that the guide arm motor is under control of the controller and is arranged to provide tension on a tape by electrical induction within the guide arm motor. Theobald makes no mention of such a controller that provides tension in the tape by electrical induction within the guide arm motor. The Examiner has not provided the factual evidence that a guide arm motor is used to provide tension on the tape at all, much less by electrical induction. The Examiner has failed to provide the underlying basis that a guide arm motor is applying tension during an unloading operation. The question of whether the guide arm motor is an induction motor is an obvious alternative design choice should not even be reached.

Claims 6 describes that the electrical induction, frictional resistance of the hub filler and frictional resistance of the guide arm applies force to the hub filler in an opposite direction toward the direction of the hub filler is traveling in the unloading operation. Again, there is no description whatsoever in Theobald of such forces. The Examiner has failed to establish that it would be obvious to apply such forces. No motivation in the prior art is identified as suggesting this arrangement to one

of ordinary skill in the art. The Examiner instead relies upon Applicant's own statement in the Specification on page 9, second paragraph. The statement says that "In these embodiments, the guide arm 414 is an induction motor. However, in other embodiments of the present invention, the guide arm motor 414 is not limited to an induction motor." The Examiner appears to be confused as to what/who should be providing the "clear motivation and clear reasoning" in an obviousness rejection, required by In re Lee. The requisite motivation to combine under 35 U.S.C. §103 cannot be based solely upon the Examiner's reasoning and stated motivation. The Examiner's reasoning has been contaminated by the teachings of Applicant's invention, and it has also been held that one having ordinary skill in the art does not have the benefit of hindsight of Applicant's invention. As such, the motivation to modify the prior art must come from the prior art. If the only apparent motivation to arrive at the claimed invention is found in Applicant's disclosure, the Examiner cannot use this motivation to support the legal conclusion of obviousness under 35 U.S.C. §103. Panduit Corp. v. Dennison Mfg. Co., 774 F.2d 1082, 227 USPQ 337 (Fed. Cir. 1985).

Further, the Examiner's rubric of obvious alternative design choice is legally erroneous. Specifically, the Court of Appeals from the Federal Circuit has repeatedly judicially condemned the "matter of design choice" approach to the motivational element. See In re Chu, 66 F.3d 292, 36 USPQ 2d 1089 (Fed. Cir. 1995); In re Gao, 980 F.2d 717, 25 USPQ 2d 1076 (Fed. Cir. 1992).

Claim 7 of the invention describes that the guide arm motor is arranged to provide tension by magnetic resistance within the guide arm motor. The Examiner has not provided any description or disclosure whatsoever that would suggest to one of ordinary skill in the art that any tension applied to the tape is provided by magnetic resistance within the guide arm motor. Theobald is completely silent on this point, and the Examiner has not provided any suggestions in the prior art to overcome this deficiency.

Claim 8 describes that the magnetic resistance of the guide arm motor, frictional resistance of the guide arm motor, frictional resistance of the hub filler, and frictional resistance of the guide arm apply force to the hub filler in an opposite direction to a hub that the hub filler is traveling in the unloading operation. The Examiner has not established that the guide arm motor in Theobald provides tension by magnetic resistance within the guide arm motor. Therefore, claim 8, which describes the direction of the force, as well as describing the frictional resistances provided by the guide arm motor and the hub filler and guide arm, cannot be said to be suggested by Theobald. The Examiner has provided no factual basis upon which to base an opinion that one of ordinary skill in the art would recognize the specifically claimed features to be present or suggested by Theobald.

Claim 12 of the present invention depends from independent claim 9 and recites that the guide arm motor is under control of a controller arranged to provide tension by stimulated electrical induction within the guide arm motor. The Examiner has failed to establish that tension is provided by a guide arm motor, as discussed above. The additional limitation that tension is provided by stimulated electrical induction within the guide arm motor is therefore further not suggested by Theobald.

Claim 13 describes that the electrical induction, frictional resistance of the hub filler, and frictional resistance of the guide arm applies torque to the hub filler in the opposite direction to a direction that the hub filler is traveling in the unloading operation. For similar reasons, the Examiner has not shown how Theobald suggests the application of tension by electrical induction within the guide arm motor, much less the direction of the tension being provided as recited in claim 13.

Claim 14 of the application recites that the guide arm motor is arranged to provide tension by magnetic resistance within the guide arm motor. The Examiner has not established, as discussed earlier, that the motor of the take-up reel of Theobald provides tension during the unloading operation. Therefore, the Examiner has not established that the guide arm motor provides tension by magnetic

resistance. This is a further level of detail that should not even be reached, since the Examiner has not even established that Theobald suggests a guide arm motor that provides tension to the tape during an unloading operation.

Claim 15 recites that the magnetic resistance of the guide arm motor, frictional resistance of the guide arm motor, frictional resistance of the hub filler, and frictional resistance of the guide arm apply force to the hub filler in an opposite direction to a direction that the hub filler is traveling in the unloading operation. For similar reasons as with respect to claim 14, the underlying basis for the assertion that Theobald suggests to one of ordinary skill in the art the limitations of claim 14 is lacking. Therefore, claim 15, reciting the details of the magnetic resistance of the guide arm motor, and frictional resistances of the guide arm motor, hub filler and guide arm applying force to the hub filler and the direction of that force, cannot be shown or suggested by Theobald.

Claim 18 is a method claim that recites the step of providing tension through a guide arm motor comprising the further step of providing tension through electrical induction within the guide arm motor. The Examiner has not established that it would be obvious to provide tension through a guide arm motor as an underlying basis. Therefore, the Examiner has not established that such tension can be provided or suggested it be provided through electrical induction within the guide arm motor.

Claim 19 cites the step of providing tension through a guide arm motor comprises the further step of providing tension in this guide arm motor through magnetic resistance within the guide arm motor. For analogous reasoning as in claim 18, the Examiner has not established a prima facie case of obviousness that providing tension on the guide arm motor through magnetic resistance is shown or suggested by Theobald.

Claim 20 recites that the step for providing tension through a guide arm comprises the further step of providing tension in the guide arm through frictional resistance of the guide arm. The

Examiner has not established that the controllable application of tension provided through frictional resistance of a guide arm would be recognized by one of ordinary skill in the art based upon Theobald. As such, the Examiner has failed to establish a prima facie case of obviousness under 35 U.S.C. §103 of claim 20 based upon Theobald.

IX. CONCLUSION

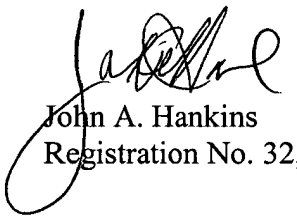
Based upon the arguments submitted supra, Appellants submit that the Examiner has failed to establish prima facie bases to deny patentability to any of the claims under 35 U.S.C. §102 or 35 U.S.C. §103. Appellants therefore submit that the Examiner's rejection of claims 1-4, 9, 11 and 16-17 under 35 U.S.C. §102 for lack of novelty predicated upon either Ohshita or Theobald, and the Examiner's rejection of claims 5-8, 12-15 and 18-20 under 35 U.S.C. §103(a) for obviousness predicated upon Theobald, are not factually or legally viable.

X. PRAYER FOR RELIEF

Based upon the previously submitted and advanced arguments, Appellants submit that each of the Examiner's rejections under 35 U.S.C. §102 and 35 U.S.C. §103 is not factually or legally viable. Appellants, therefore, respectfully solicit the Honorable Board to reverse each of the Examiner's rejections.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,
MCDERMOTT, WILL & EMERY



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XI. APPENDIX

1. A tape drive mechanism comprising:

a hub filler coupled to a guide rail; and

means for preventing detachment of an end of tape from the hub filler during a tape unloading operation.

2. The tape drive mechanism of claim 1, wherein the means for preventing detachment comprises:

a guide arm coupled to the hub filler; and

a guide arm motor coupled to the guide arm.

3. The tape drive mechanism of claim 2, wherein:

the guide arm and the guide arm motor are arranged to provide drag on a tape being unloaded from the tape drive mechanism.

4. The tape drive mechanism of the claim 3, wherein:

the guide arm and the guide arm motor are arranged to be dragged by the tape being unloaded from the tape drive mechanism.

5. The tape drive mechanism of claim 4, wherein:

the guide arm motor under control of a controller is arranged to provide tension on the tape by electrical induction within the guide arm motor.

6. The tape drive mechanism of claim 5, wherein the electrical induction, frictional resistance of the hub filler, and frictional resistance of the guide arm applies force to the hub filler in an opposite direction to a direction that the hub filler is traveling in the unloading operation.

7. The tape drive mechanism of claim 4, wherein the guide arm motor is arranged to provide tension by magnetic resistance within the guide arm motor.

8. The tape drive mechanism of claim 7, wherein the magnetic resistance of the guide arm motor, frictional resistance of the guide arm motor, frictional resistance of the hub filler, and frictional resistance of the guide arm apply force to the hub filler in an opposite direction to a direction that the hub filler is traveling in the unloading operation.

9. A tape drive mechanism comprising:

a hub filler coupled to a guide rail;

a guide arm coupled to the hub filler; and

a guide arm motor coupled to the guide arm, wherein the guide arm and the guide arm motor are arranged to controllably drag on a tape and thereby prevent detachment of an end of the tape from the hub filler during movement of the hub filler along the guide rail during an unloading operation.

10. (Cancelled)

11. The tape drive mechanism of claim 9 wherein the guide arm and the guide arm motor are arranged to be dragged by the tape being unloaded from the tape drive mechanism.

12. The tape drive mechanism of claim 9 wherein the guide arm motor under control of a controller is arranged to provide tension by stimulated electrical induction within the guide arm motor.

13. The tape drive mechanism of claim 12, wherein the electrical induction, frictional resistance of the hub filler, and frictional resistance of the guide arm applies torque to the hub filler in the opposite direction to a direction that the hub filler is traveling in the unloading operation.

14. The tape drive mechanism of claim 11, wherein the guide arm motor is arranged to provide tension by magnetic resistance within the guide arm motor.

15. The tape drive mechanism of claim 14, wherein the magnetic resistance of the guide arm motor, frictional resistance of the guide arm motor, frictional resistance of the hub filler, and frictional resistance of the guide arm apply force to the hub filler in an opposite direction to a direction that the hub filler is traveling in the unloading operation.

16. A method of preventing detachment of an end of tape from a hub filler during movement of the hub filler along a guide rail during an unloading operation, comprising the steps of:

driving an end of tape with a tape cartridge motor in a direction away from a take-up reel; and

controllably applying tension to the end of the tape in a direction toward the take-up reel.

17. The method of claim 16, wherein:

the step of applying tension comprises the further steps of:

providing tension through a guide arm coupled to the hub filler; and

providing tension through a guide arm motor coupled to the guide arm.

18. The method of claim 17, wherein the step of providing tension through a guide arm motor comprises the further step of providing tension in the guide arm motor through electrical induction within the guide arm motor.

19. The method of claim 17, wherein the step of providing tension through a guide arm motor comprises the further step of providing tension in the guide arm motor through magnetic resistance within the guide arm motor.

20. The method of claim 17, wherein the step of providing tension through a guide arm comprises the further step of providing tension in the guide arm through frictional resistance of the guide arm.